

ABSTRACT OF THE DISCLOSURE

The present invention relates to a finger using mixed-rate weighting in Smart Antenna System, and an apparatus and method for Demodulating signals using such a finger. The present invention is useful in a wireless communication network having a reverse pilot channel. Further, by using such a finger, the present invention provides a demodulation apparatus and method for making high-speed broadband communications available in a smart antenna system. In such 3-G wireless communications where both traffic signals and pilot signals are transmitted from a terminal, the present invention calculates optimized weight vectors using the pilot signal and the calculated weight vectors are adapted to each traffic signal with a symbol-rate weight.